

**In the Claims:**

This listing of claims is provided for the Examiner's ease of reference. The claims have not been amended.

1. **(Previously Presented)** A snowmobile, comprising:
  - a frame including a tunnel, the tunnel including at least one piece of bent sheet metal;
  - an engine disposed on the frame;
  - a drive track disposed below the frame and connected operatively to the engine for propulsion of the snowmobile;
  - two skis disposed on the frame;
  - a straddle seat disposed on the frame behind the engine, the seat being dimensioned to support a standard rider with a center of gravity in a standard position in which the standard rider straddles the seat while the snowmobile is heading straight ahead on flat terrain, the standard rider having dimensions and weight of a 50-percentile human male; and
  - a steering device disposed on the frame forward of the seat, the steering device being operatively connected to the two skis for steering the snowmobile,
  - wherein the snowmobile has a first center of gravity without the rider and a second center of gravity with the rider in the standard position, and
  - wherein a distance between a vertical line passing through the first center of gravity and a vertical line passing through the second center of gravity is between 0 cm and 14 cm.
2. **(Previously Presented)** The snowmobile of claim 1, wherein the distance is between 2 and 12 cm.
3. **(Previously Presented)** The snowmobile of claim 2, wherein the distance is between 4 and 10 cm.
4. **(Previously Presented)** The snowmobile of claim 3, wherein the distance is between 5 and 7 cm.
5. **(Previously Presented)** The snowmobile of claim 4, wherein the distance is 5 cm.
6. **(Previously Presented)** A snowmobile, comprising:

a frame including a tunnel, the tunnel including at least one piece of bent sheet metal;  
an engine disposed on the frame;  
a drive track disposed below the frame and connected operatively to the engine for propulsion of the snowmobile;  
two skis disposed on the frame;  
a straddle seat disposed on the frame behind the engine, the seat being dimensioned to support a standard rider with a center of gravity in a standard position in which the standard rider straddles the seat while the snowmobile is heading straight ahead on flat terrain, the standard rider having dimensions and weight of a 50-percentile human male; and  
a steering device disposed on the frame forward of the seat, the steering device being operatively connected to the two skis for steering the snowmobile,  
wherein the snowmobile has a first center of gravity without the rider and a second center of gravity with the rider in the standard position, and  
wherein a line passing through the first center of gravity of the snowmobile and the second center of gravity forms an angle with horizontal that is between 35 and 90°.

7. **(Previously Presented)** The snowmobile of claim 6, wherein the angle is between 50 and 90°.

8. **(Previously Presented)** The snowmobile of claim 7, wherein the angle is between 62 and 90°.

9. **(Previously Presented)** The snowmobile of claim 8, wherein the angle is 67°.

10. **(Previously Presented)** A snowmobile, comprising:  
a frame including a tunnel, the tunnel including at least one piece of bent sheet metal;  
an engine disposed on the frame;  
a drive track disposed below the frame and connected operatively to the engine for propulsion of the snowmobile;  
a forward-most drive track axle disposed on the frame;  
two skis disposed on the frame;  
a straddle seat disposed on the frame behind the engine, the seat being dimensioned to support a standard rider with a center of gravity in a standard position in which the standard

rider straddles the seat while the snowmobile is heading straight ahead on flat terrain, the standard rider having dimensions and weight of a 50-percentile human male;

a steering device disposed on the frame forward of the seat, the steering device being operatively connected to the two skis for steering the snowmobile; and

wherein a distance between a vertical line passing through the forward-most drive track axle and a vertical line passing through the center of gravity of the rider in the standard position is between 15 and 65 cm.

11. **(Previously Presented)** The snowmobile of claim 10, wherein the distance is between 25 and 55 cm.

12. **(Previously Presented)** The snowmobile of claim 11, wherein the distance is between 35 and 55 cm.

13. **(Previously Presented)** The snowmobile of claim 12, wherein the distance is between 37 and 47 cm.

14. **(Previously Presented)** The snowmobile of claim 13, wherein the distance is 40 cm.

15. **(Previously Presented)** The snowmobile of claim 10, wherein the distance is 45 cm.

16. **(Previously Presented)** A snowmobile, comprising:

a frame including a tunnel, the tunnel including at least one piece of bent sheet metal;  
an engine disposed on the frame;

a drive track disposed below the frame and connected operatively to the engine for propulsion of the snowmobile;

a forward-most drive track axle disposed on the frame;

two skis disposed on the frame;

a straddle seat disposed on the frame behind the engine, the seat being dimensioned to support a standard rider having a center of gravity in a standard position in which the standard rider straddles the seat while the snowmobile is heading straight ahead on flat terrain, the standard rider having dimensions and weight of a 50-percentile human male;

a steering device disposed on the frame forward of the seat, the steering device being operatively connected to the two skis for steering the snowmobile; and

wherein a line passing through the forward-most drive track axle and the center of gravity of the rider in the standard position forms an angle with horizontal that is between 41 and 75°.

17. **(Previously Presented)** The snowmobile of claim 16, wherein the angle is between 45 and 65°.
18. **(Previously Presented)** The snowmobile of claim 17, wherein the angle is between 50 and 60°.
19. **(Previously Presented)** The snowmobile of claim 18, wherein the angle is 55°.
20. **(Previously Presented)** A snowmobile, comprising:
  - a frame including a tunnel, the tunnel including at least one piece of bent sheet metal;
  - an engine disposed on the frame;
  - a drive track disposed below the frame and connected operatively to the engine for propulsion of the snowmobile;
  - two skis disposed on the frame;
  - a straddle seat disposed on the frame behind the engine, the seat being dimensioned to support suitable for a standard rider with a center of gravity in a standard position in which the standard rider straddles the seat while the snowmobile is heading straight ahead on flat terrain, the standard rider having dimensions and weight of a 50-percentile human male; and
  - a steering device disposed on the frame forward of the seat, the steering device being operatively connected to the two skis for steering the snowmobile,
  - wherein the snowmobile has a center of gravity without the rider, and
  - wherein a distance between a vertical line passing through the center of gravity of the snowmobile without the rider and a vertical line passing through the center of gravity of the rider in the standard position is between 5 and 55 cm.
21. **(Previously Presented)** The snowmobile of claim 20, wherein the distance is between 15 and 45 cm.
22. **(Previously Presented)** The snowmobile of claim 21, wherein the distance is between 25 and 45 cm.

23. **(Previously Presented)** The snowmobile of claim 22, wherein the distance is between 27 and 37 cm.
24. **(Previously Presented)** The snowmobile of claim 23, wherein the distance is 30 cm.
25. **(Previously Presented)** The snowmobile of claim 20, wherein the distance is 35 cm.
26. **(Previously Presented)** A snowmobile, comprising:
  - a frame including a tunnel, the tunnel including at least one piece of bent sheet metal;
  - an engine disposed on the frame;
  - a drive track disposed below the frame and connected operatively to the engine for propulsion of the snowmobile;
  - two skis disposed on the frame;
  - a straddle seat disposed on the frame behind the engine, the seat being dimensioned to support a standard rider having a center of gravity in a standard position in which the standard rider straddles the seat while the snowmobile is heading straight ahead on flat terrain, the standard rider having dimensions and weight of a 50-percentile human male; and
  - a steering device disposed on the frame forward of the seat, the steering device being operatively connected to the two skis for steering the snowmobile,
  - wherein the snowmobile has a center of gravity without the rider, and
  - wherein a line passing through the center of gravity of the snowmobile without the rider and the center of gravity of the rider in the standard position forms an angle with horizontal that is between 39 and 79°.
27. **(Previously Presented)** The snowmobile of claim 26, wherein the angle is between 49 and 69°.
28. **(Previously Presented)** The snowmobile of claim 27, wherein the angle is between 54 and 64°.
29. **(Previously Presented)** The snowmobile of claim 28, wherein the angle is 59°.
30. **(Previously Presented)** A snowmobile, comprising:

a frame including a tunnel, the tunnel including at least one piece of bent sheet metal;  
an engine disposed on the frame;  
a drive track disposed below the frame and connected operatively to the engine for propulsion of the snowmobile;  
two skis disposed on the frame;  
a straddle seat disposed on the frame behind the engine, the seat being dimensioned to support a standard rider with a center of gravity in a standard position in which the standard rider straddles the seat while the snowmobile is heading straight ahead on flat terrain, the standard rider having dimensions and weight of a 50-percentile human male; and  
a steering device disposed on the frame forward of the seat, the steering device being operatively connected to the two skis for steering the snowmobile,  
wherein the snowmobile has a center of gravity with the rider, and  
wherein a distance between a vertical line passing through the center of gravity of the snowmobile with the rider and a vertical line passing through the center of gravity of the rider in the standard position is between 0 and 50 cm.

31. **(Previously Presented)** The snowmobile of claim 30, wherein the distance is between 10 and 40 cm.

32. **(Previously Presented)** The snowmobile of claim 31, wherein the distance is between 20 and 40 cm.

33. **(Previously Presented)** The snowmobile of claim 32, wherein the distance is between 22 and 32 cm.

34. **(Previously Presented)** The snowmobile of claim 33, wherein the distance is 25 cm.

35. **(Previously Presented)** The snowmobile of claim 30, wherein the distance is 30 cm.

36. **(Previously Presented)** A snowmobile, comprising:  
a frame including a tunnel, the tunnel including at least one piece of bent sheet metal;  
an engine disposed on the frame;  
a drive track disposed below the frame and connected operatively to the engine for propulsion of the snowmobile;

two skis disposed on the frame;

a straddle seat disposed on the frame behind the engine, the seat being dimensioned to support a standard rider having a center of gravity in a standard position in which the standard rider straddles the seat while the snowmobile is heading straight ahead on flat terrain, the standard rider having dimensions and weight of a 50-percentile human male; and

a steering device disposed on the frame forward of the seat, the steering device being operatively connected to the two skis for steering the snowmobile,

wherein the snowmobile has a center of gravity with the rider, and

wherein a line passing through the center of gravity of the snowmobile with the rider in the standard position and the center of gravity of the rider in the standard position forms an angle with horizontal that is between 35 and 84°.

37. **(Previously Presented)** The snowmobile of claim 36, wherein the angle is between 45 and 75°.

38. **(Previously Presented)** The snowmobile of claim 37, wherein the angle is between 55 and 70°.

39. **(Previously Presented)** The snowmobile of claim 38, wherein the angle is 57°.

40. **(Previously Presented)** A snowmobile, comprising:

a frame including a tunnel, the tunnel including at least one piece of bent sheet metal;

a straddle seat disposed on the frame, the seat being dimensioned to support a standard rider in a standard position in which the standard rider straddles the seat while the snowmobile is heading straight ahead on flat terrain, the standard rider having dimensions and weight of a 50-percentile human male;

an engine disposed on the frame in front of the seat;

a steering device disposed on the frame and spaced forward of the seat such that, when the rider grasps the steering device in the standard position, the rider's torso is tilted toward the steering device and the rider's arms extend toward the steering device with the rider's elbows substantially over the rider's feet;

two skis disposed on the frame and operatively connected to the steering device for steering the snowmobile; and

a footrest disposed below each side of the seat, each said footrest being dimensioned with respect to the seat and the steering device to support the rider's foot thereon,

wherein, for the standard rider in the standard position, the seat defines a seat position, the steering device defines a steering position, and the footrests define a footrest position,

wherein a line passing through the seat position and the steering position forms angle  $\alpha$  with a line passing through the seat position and the footrest position;

wherein a line passing through the footrest position and the steering position forms angle  $\beta$  with the line passing through the footrest position and the seat position,

wherein the line passing through the footrest position and the steering position forms angle  $\gamma$  with the line passing through the steering position and the seat position, and

wherein angle  $\alpha$  is between 63 and 152°, angle  $\beta$  is between 16 and 84°, and angle  $\gamma$  is between 11 and 42°.

41. **(Previously Presented)** The snowmobile of claim 40, wherein angle  $\alpha$  is between 67 and 112°, angle  $\beta$  is between 41 and 72°, and angle  $\gamma$  is between 22 and 45°.

42. **(Previously Presented)** The snowmobile of claim 41, wherein angle  $\alpha$  is between 75 and 97°, angle  $\beta$  is between 52 and 67°, and angle  $\gamma$  is between 30 and 41°.

43. **(Previously Presented)** The snowmobile of claim 42, wherein angle  $\alpha$  is 83°, angle  $\beta$  is 64°, and angle  $\gamma$  is 33°.

44. **(Previously Presented)** A snowmobile, comprising:

a frame including a tunnel, the tunnel including at least one piece of bent sheet metal;

a straddle seat disposed on the frame, the seat being dimensioned to support a standard rider in a standard position in which the standard rider straddles the seat while the snowmobile is heading straight ahead on flat terrain, the standard rider having dimensions and weight of a 50-percentile human male;

an engine disposed on the frame in front of the seat;

a steering device disposed on the frame and spaced forward of the seat such that, when the rider grasps the steering device in the standard position, the rider's torso is tilted

toward the steering device and the rider's arms extend toward the steering device with the rider's elbows substantially over the rider's feet;

two skis disposed on the frame and operatively connected to the steering device for steering the snowmobile; and

a footrest disposed below each side of the seat, each said footrest being dimensioned and configured with respect to the seat and the steering device to support the rider's foot thereon;

wherein, for the standard rider in the standard position, the seat defines a seat position, the steering device defines a steering position, and the footrests define a footrest position,

wherein a line passing through the seat position and the steering position forms angle  $\alpha$  with a line passing through the seat position and the footrest position;

wherein a line passing through the footrest position and the steering position forms angle  $\beta$  with the line passing through the footrest position and the seat position,

wherein the line passing through the footrest position and the steering position forms angle  $\gamma$  with the line passing through the steering position and the seat position,

wherein angle  $\alpha$ , angle  $\beta$ , and angle  $\gamma$  satisfy the relationship  $\alpha \geq \beta \geq \gamma$ ; and

wherein a distance between vertical lines passing through the steering position and the seat position is between 40-90 cm.

45. **(Previously Presented)** A snowmobile, comprising:

a frame including a tunnel, the tunnel including at least one piece of bent sheet metal;

a straddle seat disposed on the frame, the seat being dimensioned to support a standard rider in a standard position in which the standard rider straddles the seat while the snowmobile is heading straight ahead on flat terrain, the standard rider having dimensions and weight of a 50-percentile human male;

an engine disposed on the frame in front of the seat;

a steering device disposed on the frame and spaced forward of the seat such that, when the rider grasps the steering device in the standard position, the rider's torso is tilted toward the steering device and the rider's arms extend toward the steering device with the rider's elbows substantially over the rider's feet;

two skis disposed on the frame and operatively connected to the steering device for steering the snowmobile; and

a footrest disposed below each side of the seat, each said footrest being dimensioned and configured with respect to the seat and the steering device to support the rider's foot thereon;

wherein, for the standard rider in the standard position, the seat defines a seat position, the steering device defines a steering position, and the footrests define a footrest position,

wherein a line passing through the seat position and the steering position forms angle  $\alpha$  with a line passing through the seat position and the footrest position;

wherein a line passing through the footrest position and the steering position forms angle  $\gamma$  with the line passing through the steering position and the seat position, and

wherein  $\alpha \approx 2.5\gamma$ .

46. **(Previously Presented)** A snowmobile, comprising:

a frame including a tunnel, the tunnel including at least one piece of bent sheet metal;

a straddle seat disposed on the frame, the seat being dimensioned to support a standard rider in a standard position in which the standard rider straddles the seat and the rider's thighs are substantially parallel to ground while the snowmobile is heading straight ahead on flat terrain, the standard rider having dimensions and weight of a 50-percentile human male;

an engine disposed on the frame in front of the seat;

a steering device disposed on the frame and spaced forward of the seat such that, when the rider grasps the steering device in the standard position, the standard rider's torso is tilted toward the steering device and the rider's arms extend toward the steering device with the rider's elbows substantially over the rider's feet; and

two skis disposed on the frame and operatively connected to the steering device for steering the snowmobile;

wherein the seat defines a seat position and the steering device defines a steering position for the standard rider in the standard position, and

wherein a line passing through the steering position and the seat position forms an angle  $\phi$  with horizontal that is between 15 and 51°.

47. **(Previously Presented)** The snowmobile of claim 46, wherein angle  $\phi$  is between 19 and 41°.

48. **(Previously Presented)** The snowmobile of claim 47, wherein angle  $\phi$  is between 23 and 31°.

49. **(Previously Presented)** The snowmobile of claim 48, wherein angle  $\phi$  is 26°.

50. – 76. **(Cancelled)**

77. **(Previously Presented)** A snowmobile, comprising:

a frame including a tunnel, the tunnel including at least one piece of bent sheet metal;

a straddle seat disposed on the frame, the seat being dimensioned to support a standard rider in a standard position in which the standard rider straddles the seat while the snowmobile is heading straight ahead on flat terrain, the standard rider having dimensions and weight of a 50-percentile human male;

an engine disposed on the frame in front of the seat;

a drive track operatively coupled to the engine, the drive track including a belt entrained about at least two axles, including a forward-most axle;

two skis disposed on the frame;

a steering device disposed on the frame forward of the seat and operatively connected to the two skis for steering the snowmobile; and

right and left sideboards extending laterally from the frame below the seat on either side thereof, each of the sideboards having a forward portion suitable for placement of a rider's foot thereon,

wherein, for the standard rider in the standard position, the seat defines a seat position, the steering device defines a steering position forward of the forward-most axle of the drive track, and the forward portions of the sideboards define a footrest position,

wherein a line passing through the seat position and the steering position forms angle  $\alpha$  with a line passing through the seat position and the footrest position;

wherein a line passing through the footrest position and the steering position forms angle  $\beta$  with the line passing through the footrest position and the seat position,

wherein the line passing through the footrest position and the steering position forms angle  $\gamma$  with the line passing through the steering position and the seat position, and

wherein angle  $\alpha$  is between 63 and 152°, angle  $\beta$  is between 16 and 84°, and angle  $\gamma$  is between 11 and 42°.

78. **(Previously Presented)** The snowmobile of claim 77, wherein angle  $\alpha$  is between 67 and 112°, angle  $\beta$  is between 41 and 72°, and angle  $\gamma$  is between 22 and 45°.

79. **(Previously Presented)** The snowmobile of claim 78, wherein angle  $\alpha$  is between 75 and 97°, angle  $\beta$  is between 52 and 67°, and angle  $\gamma$  is between 30 and 41°.

80. **(Previously Presented)** The snowmobile of claim 79, wherein angle  $\alpha$  is 83°, angle  $\beta$  is 64°, and angle  $\gamma$  is 33°.

81. **(Previously Presented)** A snowmobile, comprising:

a frame including a tunnel, the tunnel including at least one piece of bent sheet metal;  
a straddle seat disposed on the frame, the seat being dimensioned to support a standard rider in a standard position in which the standard rider straddles the seat while the snowmobile is heading straight ahead on flat terrain, the standard rider having dimensions and weight of a 50-percentile human male;

an engine disposed on the frame in front of the seat;

two skis disposed on the frame;

a steering device operatively connected to the two skis, the steering device being spaced forward of the seat such that, when the rider grasps the steering device in the standard position, the standard rider's torso is tilted toward the steering device and the rider's arms extend toward the steering device with the rider's elbows substantially over the rider's feet; and

a sideboard extending laterally from the frame below each side of the seat, each said sideboard having a forward portion dimensional and configured with respect to the seat and the steering device to support a rider's foot thereon,

wherein, for the standard rider in the standard position, the seat defines a seat position, the steering device defines a steering position, and the forward portion of each said sideboard defines a footrest position,

wherein a line passing through the seat position and the steering position forms angle  $\alpha$  with a line passing through the seat position and the footrest position;

wherein a line passing through the footrest position and the steering position forms angle  $\beta$  with the line passing through the footrest position and the seat position,

wherein the line passing through the footrest position and the steering position forms angle  $\gamma$  with the line passing through the steering position and the seat position, and

wherein angle  $\alpha$ , angle  $\beta$ , and angle  $\gamma$  satisfy the relationship  $\alpha \geq \beta \geq \gamma$ .

82. **(Previously Presented)** A snowmobile, comprising:

a frame including a tunnel, the tunnel including at least one piece of bent sheet metal;

a straddle seat disposed on the frame, the seat being dimensioned to support a standard rider in a standard position in which the standard rider straddles the seat while the snowmobile is heading straight ahead on flat terrain, the standard rider having dimensions and weight of a 50-percentile human male;

an engine disposed on the frame in front of the seat;

two skis disposed on the frame;

a steering device operatively connected to the two skis, the steering device being spaced forward of the seat such that, when the rider grasps the steering device in the standard position, the standard rider's torso is slightly tilted toward the steering device and the rider's arms extend toward the steering device with the rider's elbows substantially over the rider's feet; and

a sideboard extending laterally from each side of the frame below the seat, each said sideboard having a forward portion dimensioned and configured with respect to the seat and the steering device to support a rider's foot thereon,

wherein, for the standard rider in the standard position, the seat defines a seat position, the steering device defines a steering position, and the forward portions of the sideboards define a footrest position,

wherein a line passing through the seat position and the steering position forms angle  $\alpha$  with a line passing through the seat position and the footrest position;

wherein a line passing through the footrest position and the steering position forms angle  $\gamma$  with the line passing through the steering position and the seat position, and

wherein  $\alpha \approx 2.5\gamma$ .

83. **(Previously Presented)** The snowmobile of any one of claims 77 to 82 further comprising:

right and left toe-holds disposed respectively above the forward portion of each sideboard for allowing the rider to releasably secure himself to the snowmobile.

**84. (Previously Presented) A snowmobile, comprising:**

- a frame including a tunnel, the tunnel including at least one piece of bent sheet metal;
  - an engine disposed on the frame;
  - a drive track disposed below the frame and connected operatively to the engine for propulsion of the snowmobile;
  - two skis disposed on the frame;
  - a straddle seat disposed on the frame behind the engine, the seat being dimensioned to support a standard load having dimensions and weight of a 50-percentile human male, the load having a center of gravity in a standard position in which the standard load straddles the seat while the snowmobile is on flat terrain;
  - a footrest positioned on each side of the seat; and
  - a steering device disposed on the frame forward of the seat, the steering device being operatively connected to the two skis for steering the snowmobile,
- wherein the seat, each said footrest and the steering device are positioned and dimensioned with respect to one another so that the snowmobile 1) has a first center of gravity without the standard load and 2) has a second center of gravity when the standard load is in the standard position, and
- wherein a distance between a vertical line passing through the first center of gravity and a vertical line passing through the second center of gravity is between 0 cm and 14 cm.

**85. – 86. (Canceled)**

**87. (Previously Presented) A snowmobile, comprising:**

- a frame including a tunnel, the tunnel including at least one piece of bent sheet metal;
- an engine disposed on the frame;
- a drive track disposed below the frame and connected operatively to the engine for propulsion of the snowmobile;
- two skis disposed on the frame;
- a straddle seat disposed on the frame behind the engine, the seat being dimensioned to support a standard rider with a center of gravity in a standard position in which the standard

rider straddles the seat while the snowmobile is heading straight ahead on flat terrain, the standard rider having dimensions and weight of a 50-percentile human male; and

a steering device disposed on the frame forward of the seat, the steering device being operatively connected to the two skis for steering the snowmobile,

wherein the snowmobile has a first center of gravity without the rider and wherein the snowmobile is adapted to have a second center of gravity with the rider in the standard position such that, in use, a distance between a vertical line passing through the first center of gravity and a vertical line passing through the second center of gravity is between 0 cm and 14 cm.

88. **(Previously Presented)** The snowmobile of claim 40, further comprising a tunnel and an endless drive track housed within the tunnel, the endless drive track being operatively coupled to the engine.

89. **(Canceled)**

90. **(Previously Presented)** A snowmobile, comprising:

a frame including a tunnel, the tunnel including at least one piece of bent sheet metal;  
a straddle seat disposed on the frame;

an engine disposed on the frame in front of the seat;

a steering device disposed on the frame and spaced forward of the seat;

two skis disposed on the frame and operatively connected to the steering device for steering the snowmobile; and

a footrest disposed below each side of the seat;

wherein, for the standard rider in the standard position, the seat defines a seat position, the steering device defines a steering position, and the footrests define a footrest position,

wherein a distance between vertical lines passing through the steering position and the seat position is between 40-90 cm.

91. – 92. **(Canceled)**